

Application No. 10/666,182
Reply to Office Action of September 9, 2005

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REMARKS/ARGUMENTS

In the Office Action dated September 9, 2005, the Examiner rejected claims 1, 9-14, and claims 2-8, 15-27 were subjected to restriction. Claims 1-27 remain pending in the application. Reconsideration and allowance of all pending claims are requested.

Information Disclosure Statement

Applicants enclose with this response an Information Disclosure Statement (IDS) containing a listing of all references disclosed by Applicants in the parent cases of the instant application, and references cited by the Examiner(s) in those cases. Applicants respectfully request consideration of these references by the Examiner.

Claim Rejections under 35 USC 102

The Examiner rejected claim 1 and claim 13 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,714,202 (Lemelson et al., hereinafter Lemelson). Anticipation requires the disclosure in a single prior art reference of each element of the claims under consideration. The Applicants respectfully traverse this rejection.

Lemelson does not teach, suggest, or disclose every element recited in the rejected claims. The independent claim 1 of the present invention recites method for coating a substrate comprising steps of attaching and bonding a preform to the substrate. The preform includes braze alloy and wear resistant particles. While Applicants acknowledge that an applicant may not read limitations from the specification into the claims, it is well settled that the claims do not stand alone and that they must be read in view of the specification of which they are a part. *Phillips v. AWH Corp.*, 376 F.3d 1382, 71 U.S.P.Q.2d 1765 (Fed. Cir. 2005). The term "preform" as used herein is defined in the originally filed specification as a brazing sheet that contains no binder. See page 7, lines 1-6, and page 9, lines 18-20. As is clear from the specification, a braze preform, as that term is used in the instant application, is a sheet of material that is first attached to the article to be coated and then fused to the substrate. *Id.*

In contrast, Lemelson is directed to multi-layer coatings for gas turbine engine parts (abstract). Lemelson teaches layer by layer building of the wear resistant coating

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and does not teach attaching a preform to the substrate. Lemelson teaches applying a MCrAlY bond coat using a plasma spray coating over the substrate. An adherent alumina layer is formed on a polished surface of the MCrAlY coat and a columnar ceramic layer is adhered on the alumina layer. Diamond coating is applied over the columnar ceramic layer using chemical vapor deposition (col. 4, 45-57).

Lemelson does not teach or suggest attaching a preform to the substrate. Lemelson is directed to spraying a bond coat over which a wear resistant coat including diamond is formed by a coating deposition process. There is no use of a sheet of material (perform)—all layers are deposited via coating deposition methods. Accordingly, Lemelson does not teach each and every element of originally filed claim 1 or originally filed dependent claim 13. Therefore, Lemelson cannot anticipate either of claim 1 or claim 13.

The Examiner rejected claims 1, 9, 10 and 12 under U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,190,124 (Freling et al., hereinafter Freling).

Freling teaches an abrasive tip 28 including metallic bond coat 38, an aluminum oxide layer 42, and zirconium oxide abrasive coat 44. The method of attaching the abrasive tip of Freling is fundamentally different from the bonding of the preform of the present invention. The abrasive tip of Freling is, like the material in Lemelson, above, built layer by layer on the substrate by coating deposition methods, unlike the present invention where the preform is attached to the substrate. To quote from Freling, col. 5, lines 9 et seq., "[T]he bond coat 38 may be deposited by low pressure plasma spray (LPPS), air plasma spray (APS), electron beam physical vapor deposition (EB-PVD), electroplating," and so forth. As Freling does not teach, suggest, or disclose a preform, it does not properly anticipate independent claim 1 of the present case or the dependent claims 9, 10, and 12.

It should also be noted that in both the rejection under Lemelson and Freling, the Examiner appears to be equating an MCrAlY coating (i.e., the "bond coats" referred to by each reference) with the "braze alloy" recited in instant independent claim 1. This is not a proper interpretation, because it is well known in the art that brazing alloys melt at

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temperatures lower than the melting temperature of the substrate material (see, for example, the specification, page 7, lines 16-20, while MCrAlY is a well-known and widely used coating material for providing high-temperature environmental resistance for superalloys and other high temperature metals. See for example <http://www.sermatech.com/resourceCenter/glossary.html> ("MCrAlY - An acronym for Metal (Ni, Co, or Fe base or mixtures thereof) + Chromium+Aluminum+Yttrium. These are coating compositions primarily suited for gas turbine hot section components.") One skilled in the art would not construe MCrAlY to be a braze metal, particularly where, as in the instant case, the application involves components for high temperature components.

Claims 1, 10 and 11 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 2,763,920 (Turner et al., hereinafter Turner). The Applicants respectfully traverse this rejection. Anticipation requires the disclosure in a single prior art reference of each element of the claims under consideration.

Turner does not teach a preform of the present invention. Turner is directed to providing an impact resistant coating comprising a ductile nickel-chromium alloy (col. 2, 20-25) onto a substrate. The alloy is coated onto the article by spraying liquefied metal onto the article, by dipping the article into molten alloy, by spraying a powdered alloy through a hot flame (i.e., thermal spraying), or by feeding the alloy as a rod into a flame and spraying the resultant liquid metal onto the article. See Col. 3, line 72 - Col. 4, line 15. There is no teaching, suggestion, or disclosure of attaching a perform to a substrate and bonding the perform to the substrate.

Accordingly, Turner does not teach each and every element of originally filed claim 1 or originally filed claims 10 and 11. Therefore, Turner cannot anticipate claim 1 and the dependent claims therefrom, claim 10 and 11.

Claim Rejections under 35 USC 103

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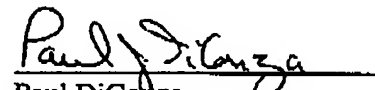
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The Examiner rejected claim 14 under 35 U.S.C. 103(a) as being unpatentable over Freling and further in view of JP. Patent No. 3-232707 (Akiyama et al., hereinafter Akiyama).

As discussed above, Applicants believe Claim 1 recites allowable subject matter. Therefore, claim 14 which depends directly from claim 1 is believed to be clearly patentable over Freling and further in view of Akiyama. The Applicants therefore respectfully request that the Examiner withdraw the rejection of claim 14 under 35 U.S.C. 103(a).

In view of the foregoing arguments the Applicants respectfully request reconsideration and prompt allowance of all pending claims 1-27. If the Examiner believes that a telephonic interview will help speed this application towards issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,


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Monday, January 09, 2006

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Attachment: IDS